A Panel Based Analysis of the Effects of Race/Ethnicity and Other Individual Level Characteristics at Leaving on Returning

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Abstract Individual level differentials between migrants and nonmigrants are examined to ascertain the likelihood of return migration to a prior residence based on characteristics at the time of departure from place of origin. Analysis focuses on comparisons of Hispanics, blacks and whites, examining the odds of return migration by education, employment status, marital status, home ownership, length of residence, gender, age, and migration interval. The 1979 National Longitudinal Survey of Youth (NLSY79) is utilized to identify 13,798 preliminary migrations that may be followed by at least one return migration. Findings indicate a sharp decline in propensity to return migrate as length of absence from origin increases. Regardless of length of time since the preliminary migration, both blacks and Hispanics are more likely to return migrate than are whites. Individuals who resided at place of origin for longer periods before leaving had strikingly higher odds for return migration.

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Introduction

The moment in time at which a person leaves a place is an important element of migration itself; some of those leaving are already longing to come back while others are eager to find a new place that is more fitting for them. Relatives, friends and others in the community are also concerned with who leaves and whether they will ever return. Little research has examined the extent to which characteristics at the time of departure from place of origin can explain subsequent return migration, despite the fact that this seems like a point when interests in who will return and when they will return is high. Individual level characteristics have been of continual interest in migration research with differences between migrants and nonmigrants referred to as migration differentials or selectivities (Thomas 1938). Differentials are often attributed to variations in human capital, e.g., individual level socioeconomic characteristics relative to the dispersion of socioeconomic characteristics of places (White and Lindstrom 2006). Personality traits, too, are sometimes linked to greater eagerness to migrate (Shaw 1975) or desires to return to familiar places (Cromartie and Stack 1989; Brown and Cromartie 2006). More generally, individual characteristics index broad economic, social and cultural backgrounds as well as current social and economic attributes that influence migration and other behaviors.

The objective of the present analysis is to contribute to research on the influences of individual characteristics, measured at the time of leaving a place, on the likelihood of returning at later points in time. It is important to better understand return migration because it is a distinctive response to the spatial distribution of a broad array of social and economic factors. Differences in levels of return migration may help to account for the persistence of areas with low or high concentrations of members of ethnic or cultural groups, and have implications for the extent to which group members pursue opportunities in diverse places. We use panel data to organize a multivariate prospective design that begins with what we call preliminary migrations that create the possibility of a return migration. These preliminary migrations are the unit of analysis with the migrants' characteristics at the time of their departures serving as independent variables. The 1979 National Longitudinal Survey of Youth (NLSY79) is utilized to develop four unusual measures of return migration that reveal the likelihood of return migration and its tempo. These measures, *ever*, *rapid*, *delayed* and *belated* return migrations are employed using a "population at risk approach" to analyze the effects of characteristics after specified intervals of absences. The use of *rapid*, *delayed* and *belated* allow an analysis of the odds of return for those who have stayed away for *one-year, two to five years,* and *six or more years,* respectively. The specific objectives are to present (1) an examination of the overall tempo of return migration (2) a multivariate comparison of odds of return migration for Hispanics, blacks and whites, (3) an examination of the effects of six other individual level characteristics fixed at the times of departure

from place of origin. Time varying characteristics measured at the times of departure are marital status, employment status, length of residence, and home ownership. Gender is included as a non-time varying characteristic along with race/ethnicity. For a more rigorous examination of the effects of individual characteristics analyses are separated for metropolitan (metro) and nonmetropolitan (nonmetro) origins, a way of partially, although not wholly effectively, controlling somewhat for distance of migration. We introduce period effects (decade of move) solely to control for differences in societal migration patterns between the 1980s and 1990s and include age as control variables.

Reliance on cross-sectional data with only end-of-interval measures and the absence of adequate samples of Hispanics and blacks in early panel data have also resulted in weaknesses in our understanding of migration selection. We have considerably broadened this study to include comparisons of return moves with other types of repeat migration. However, including analyses of all types of repeat migration, as well as addressing the comparative issues between racial and ethnic groups would make the analysis cumbersome and detract from increasing our understanding of return migration. We certainly recognize the need for research that compares return, onward and primary migration but will address these in other analyses.

For inspiration, we draw heavily on the relatively rare panel based studies of repeat migration, like that utilized by DaVanzo and Morrison (1981), in which returning to a prior place of residence is distinguished from migrating to a new destination, referred to as onward migration. This line of research is unusual because it requires the use of extensive longitudinal, preferably panel, data, and can be traced back to Goldstein's (1954) innovative comparisons of city directories that revealed many migrants make multiple migrations.

Background

Return Migration

Return migrations make up at least a quarter of inter-county migrations in the United States and have been a focus of considerable demographic research (Alexander 2005; Cromartie and Stack 1989; DaVanzo and Morrison 1981; Falk et al. 2004; Lee 1974; Goldstein 1954; Long and Hansen 1977; Morrison and DaVanzo 1986). Returns may happen quickly or after many years and there is a possibility that the effects of characteristics will be different at shorter and longer intervals of absence. DaVanzo and Morrison (1981) and Morrison and DaVanzo (1986) demonstrated that the relationship between return migration and individual characteristics differ from the relationships between the characteristics and onward migration. The research focused on onward migration findings (Tolnay and Eichenlaub 2006) and on return migration for southern-born black women (Adelman et al. 2000) points to a need for studies focusing on separate forms of migration as well as studies that compare them. Frey and Liaw (2005) emphasize that it is increasingly important to investigate the relationship between aspects of migration and race/ethnicity along with other personal characteristics.

Analysis of the relationship between individual level characteristics and return migration that compares migration by Hispanics, blacks and whites is particularly needed. Tolnay (2003) laments that even in the large body of research on the migration of blacks from and to the south there is a relative paucity of research on the return migration. His in-depth studies of the Great Migration and recent trends in the migration of blacks show the importance of migration to the migrants' overall socio-economic situation in American society (Tolnay 1998, 2003). Frey's research which reveals the patterns of immigration and internal migration that are leading to some areas of the country becoming more culturally and racially diverse while others become far less diverse along these dimensions, certainly demonstrates the importance of race and ethnic differences in migration (Frey 1995, 1996, 2008). This demographic balkanization, an idea that Frey has since distanced himself from, (Liaw and Frey 2007), still aptly describes how differential racial and ethnic migration streams could produce more distinct social and political schisms between areas of the United States.

The rapid growth of the Hispanic population and their increasing tendency to migrate to new destinations amplifies the need for comparative research on different aspects of their internal migration to complement the rising rich body of studies on Latino international migration (e.g., Bachmeier 2007; South et al. 2005; Massey et al. 1994). The NLSY79, the first national panel with an overrepresentation of Hispanics, permits comparisons of Hispanics with other race/ethnic groups. Recent research indicates that Hispanics, such as those represented by the NLSY79 sample, who were living in the United States prior to the recent increase in Hispanic immigrants are playing an important role in shaping the migration patterns of recent immigrants (Bachmeier 2007; Leach 2004; Zuniga and Hernandez-Leon 2002).

Models of migration largely depict migration as not only an individual choice, but a response to variations in levels of opportunities offered in different places. These opportunities are generally economic, but other place characteristics, such as climate, natural amenities, social ties, and cultural elements, are also recognized as being important. It is commonly held that different types of individuals or groups will respond differently to a given set of place characteristics (Lee 1966). The distinction between rural or nonmetro and urban or metro places is one of the common and most important in migration research because it tends to indicate broad social and economic differences between places (Johnson et al. 2006; Long and Nucci 1998). In their study of international migration Fussell and Massey (2004) note that mechanisms that influence migration operate differently in nonmetro and metro areas because of more pervasive social networks in nonmetro than in metro areas, and because metro areas offer more routes to economic gain through their diversified labor markets. Migration between nonmetro and metro areas in the United States has usually favored urban areas although rural areas have experienced net inmigration in some years since the 1970s (White and Lindstrom 2006). However, even in years of overall net population gains in nonmetro areas, the number of young adults leaving rural areas for urban areas has exceeded the number coming to nonmetro areas from metro areas (Johnson et al. 2006). There is a general perception that individuals develop particularly strong ties to nonmetro areas that may draw them back, and that these ties are stronger for some groups than for others

(Smith 2002). Analysis of the extent to which the effects of selected individual level characteristics are similar across these two important settings will provide a more robust test of their effects.

Individual Level Characteristics and Migration

Only one personal characteristic, age, has been found to be consistently related to voluntary migration. Age, however, is not the sole determining factor influencing migration as other life-cycle events can often override the effect of age on the likelihood of migration. The difficulty of determining the effects of other personal characteristics on migration is similarly illustrated by Quinn and Rubb's (2005) research on the effects of education on migration. They note that some past analyses have found higher migration propensities for the more highly educated and some studies have reported lower migration for the more highly educated, yet others have found no statistical differences between individuals with varying levels of education. Quinn and Rubb (2005) mingle education and occupation in a framework that distinguishes between individuals by level of over or under education for their occupation. Their multivariate analysis extends research on these personal characteristics by revealing mismatches between education and occupation as plausible determinants of migration. They also note that the effect of a given personal characteristic, like age or education, is likely to vary with respect to setting. Speare et al. (1975) earlier research also noted the need to examine differentials with a multivariate approach.

In an early overview of internal migration Bogue (1959) lists age, gender, education, employment status and race as important to migration differentials although he emphasized that these were likely to vary across settings and time periods. Since Bogue's early review, length of residence and home ownership have been identified as being important and consistently associated with migration (Haan 2007; White and Lindstrom 2006). Studies focusing on these two individual level characteristics maintain that they index socioeconomic ties individuals have established with places (DaVanzo and Morrison 1981; Green and Hendershott 2001; Speare 1970; Toney 1976). Early on, Speare (1970) compared home owners and renters and found renters to be four to five times more likely to move than home owners. Similarly, research indicates that individuals who have lived in a place less than 3 years are several times more likely to migrate, whether return or onward, within the following year than are individuals who have lived in the place for longer amounts of time.

As regards return migrants, of course, there are contradictory findings on the extent to which this group differs from other migrants and from nonmigrants (DaVanzo 1976; Lee 1974; Von Reichert 2002). Von Reichert (2002) shows that Montana's return migrants were similar to the people they were returning to be among. DaVanzo and Morrison (1981) found that return migrants, especially those who returned after a short absence, are less educated, less skilled, and more likely to be unemployed than are other categories of migrants. In contrast Falk et al. (2004) census-based examination showed black return migrants were of higher socioeconomic status than blacks remaining in the North and the blacks they were joining in

the South. They referred to black return migrants as the "best of the brightest." Shumway and Hall (1996) found low income Chicanos were more likely than high income Chicanos to make return than onward migrations. Some of the conflicting findings may be due to studies comparing return migrants to the populations of origin while others compare return migrants to the populations of destination. Further whether characteristics are measured at the time of the return migration or at some other point in the migration process may influence the extent to which return migrants are different from nonmigrants, or other types of migrants.

Research on the earlier movement of blacks from the South, referred to as the "Great Migration", and on the recent increase in their return to the South is impressive (Berry 2000; Cromartie and Stack 1989; Falk et al. 2004; White et al. 2005; Tolnay 2003; Wilson 2001). The importance of migration for racial and ethnic groups is signified by Tolnay's (2003) observation that the Great Migration, the movement of millions of southern-born African American to the non-South, is one of the major demographic events of the last century and represented a desire for a better life and a willingness to pursue opportunities in distant places. In an analysis of interstate migration based on the 1960 and 1970 censuses, Long and Hansen (1977) found that whites born in the South, but living outside that region, were several times more likely to return to the South than were blacks. More recent research shows a shift in the migration patterns of blacks, with increases in the number returning to the South standing out as a prominent factor in black migration (Falk et al. 2004). Newbold's (1997) state and regional level analysis of 1990 census data showed higher overall rates of return migration within the United Sates for blacks than for whites, especially for returning to the South. Tolnay's (1998) extensive research on the Great Migration revealed that blacks who left the South were more educated than blacks who remained in the South, but less educated than the blacks they were joining outside the South. Research has also revealed that black onward migrants in the West were generally more successful than blacks who moved directly from the South to the West (Tolnay and Eichenlaub 2006). Moreover, Wilson's (2001) research showed migration was selective of blacks going from and coming to the South with respect to family stability. Wilson noted the need for future research on migration selectivities that used longitudinal data, which allowed the measurement of characteristics at the beginning of a migration defining interval.

Until recently the relatively small size of the Hispanic population in the United States and their concentration in a few states helped account for the absence of a large body of studies on their internal migration. Sandefur and Jeon (1991) observe that comparisons made from census data, which include Hispanics, have been problematic because procedures used to identify Hispanics have not been consistent over time, a challenge compounded by the other migration-defining limitations inherent in census data. McHugh (1987) laments the lack of research on the internal migration of Hispanics, and points to the need for research on long-term Hispanic residents, as well as on recent Hispanic immigrants. Recent research has shown that long-term Hispanic residents and native-born Hispanics are playing an important role in establishing population nodes outside traditional Hispanic settlement areas (Leach 2004; Zuniga and Hernandez-Leon 2002). Smith (2002) maintains that place

attachment of Hispanics to nonmetro areas left behind is extraordinarily deep, and that the identity and bonds are lasting.

Potential Effect of Time of Departure on Coming Back

The use of panel data collected on numerous occasions over a long period of time allows for the observation of return migration after different lengths of absences as well as measurement of characteristics at early points in the migration process. Analyses of migration that are based on census data, as well as most cross sectional sample data, are limited to measures of state of residence at three points in time: current residence, state of residence 5 years ago, and state of birth (e.g., Brown and Cromartie 2006; Long and Hansen 1977; Newbold 1997). This data limitation results in many repeat migrations, especially return migrations, remaining undocumented (DaVanzo and Morrison 1981; Eldridge 1965). Measuring characteristics at the end of migration interval makes it difficult to interpret findings with respect to whether migration is a cause or consequence of differences between migrants' and nonmigrants' characteristics. We appreciate that migration models hypothesizing strong effects of individual level characteristics at a time proximate to a migration, or recent changes in characteristics, have warranted research on measuring characteristics at the beginning of a fixed short time-interval over which subsequent migration is measured. But, some models note that migration can be a long, drawn out process with determinants sometimes occurring long before a migration takes place. For example, Brown and Cromartie (2006) and Cromartie and Stack (1989) report that prior residence by ancestors in the South is an important determinant of recent increases in the "return" or homeward migration by blacks who were born outside the South.

Sandefur and Jeon (1991) comment that they could not include variables they considered potentially important determinants of migration in their research, including marital status, because census and cross-sectional survey data only have end of interval measures, which could be endogenous with migration. Our design is similar to the research on international migration that examines the status of immigrants when they leave for the United States as a factor in whether they will return, or how long they will remain in the host country (Lindstrom 1996).

We restrict our examination to personal characteristics at the time of departures to test for potential effects that have not been as fully addressed in prior research. The time when one leaves a place certainly seems to be a critical point in repeat migration, particularly from perspectives that view migration as an ongoing process or series of events. Keeping the scope focused on time at departure helps to prevent the empirical analysis across four measures of return migration from becoming unwieldy. Also, research on other social demographic topics indicates characteristics very early in life may have strong effects on behavior at much later points in life. For example, research on teen pregnancy and divorce point to effects that sometimes occur after the passing of considerable time (Furstenberg 1998). Hayward and Gorman's (2004) research on the influences of childhood circumstances, as they relate to adult mortality suggests that socioeconomic or sociodemographic factors may precede a demographic behavior by a considerable period

of time. Consistent with this line of logic, our four measures of return migration allow us to examine whether characteristics at the time of departures effect return migration among those who have been away for shorter and longer amounts of time.

In review, our interests in individual level characteristics stem from a rich body of research pointing to an important role for such traits in influencing migration. This literature suggests personal characteristics reflect differences in cultural and experiential backgrounds, resources, and statuses that might influence return migration and whether it occurs quickly. One of the limitations in this literature is the absence of research that analyzes whether characteristics at the time of making one migration will affect subsequent migrations. Consistent with findings in past studies on race/ethnicity and migration, and our interest in addressing the weak spot in research on the effects of race/ethnicity on return migration, our only formal hypothesis is higher odds of return migration by Hispanics and blacks than by whites for each of our four measures and across metro and nonmetro settings. We do not offer specific hypotheses for the other six independent variables but rather will be guided by a more general research question concerning whether characteristics at the time of departing an origin effect the propensity to return. This is consistent with prior observations that the effects of characteristics vary across times and places. Importantly, we underscore that our primary interest is in examining the effects of these individual level characteristics in a multivariate context.

Data and Methods

Data Source

The NLSY79 is a panel of 12,686 respondents who were between the ages of 14 and 22 at the time of their first interview in 1979. They were aged 37–45 at the time of the 20th interview in 2002, the last data point for this research. The panel is comprised of three sub-samples: a nationally representative cross-sectional sample of 6,111 respondents; a supplemental sample comprised of 1,480 Hispanics, 2,172 blacks and 1,643 poor non-blacks/non-Hispanics (referred to as poor whites); a sample of 1,280 respondents who were enlisted in the military. The military sub-sample and the poor white sub-sample were dropped from the NLSY79 for funding reasons after the 1984 and 1990 interviews, respectively. For each round the retention rate of the nationally representative sample, plus the retained samples has been above 78%, with 7,724 respondents in the 2002 round. There is less than a two-percentage point difference in retention rates between the sub-samples for any survey year. For this paper, analysis is limited to migrations by respondents who were 18 years old or older, and whose primary activity was in the labor force at the beginning of the interval in which migration is measured.

The NLSY79 is a fitting panel for migration research because in the course of repeated interviewing between 1979 and 2002 the respondents transited the young adult years when migration rates were high, and entered the mid-years when rates decline as most people settle on a place to put down roots. The NLSY79 has not been used in recent analyses of repeat internal migration within the U.S. (U.S.

Department of Labor 2005). Reagan and Olsen (2000) employed this data to follow 571 immigrants, and to analyze the economic and demographic factors associated with returns to their countries of birth. They note that the NLSY79's tracking of individuals from one interview to the next over many years provides rare information for measuring return migration. Information on counties of residence is available for each of the 20 interview dates, thereby providing data to construct illuminating measures of migration.

Measuring Migrations

Whereas DaVanzo and Morrison (1981) and Morrison and DaVanzo (1986) utilized labor market areas to define migration between multi-county labor markets in their classic panel based studies, this research examines migration across county lines. A migration, then, is defined as a move across a county boundary. County boundaries have often been used for measuring migration, but are underused in studies of return migration. County lines are the smallest political/spatial unit that individuals can reasonably identify when asked to name past places of residence, and some have noted that, of the identifiable spatial units, it is the one in which one's daily social life tends to be most intense (Shryock 1964). Sandefur and Jeon (1991) observe that analysis based on larger geographical units show similarities in racial/ethnic migration patterns but may conceal differences that exist for smaller spatial units. Admittedly, however, any scheme that uses boundaries for defining migration is arbitrary since the size of the geographical unit, and whether residences are evenly dispersed or concentrated in the center or near the boundaries, influences the measure of migrations (Long 1988). We do utilize the classification of counties as nonmetro and metro to partially, although inadequately, ameliorate this weakness.

For a return migration to occur there must be a previous migration. Corresponding to this, we first identify *"preliminary migrations"* that create a risk of return migration. These are measured at the county level from one interview to the next over the first 19 interviews (those occurring between 1979 and 2000) using Federal Information Processing Standards or FIPS codes that identify counties/ parishes. We stop identifying *preliminary migrations* with the 1998–2000 interview interval because of the need to have at least one subsequent interval to measure return migration. We detected 13,798 preliminary migrations by 5,912 individuals who were age 18 or over and in the labor force (Table 1). These preliminary migrations were distributed unevenly over the 18 migration intervals with the largest number, 1,426 migrations, occurring in the 1986–1987 interval when the respondents were ages 21–29. The smallest number of preliminary migrations, 322 migrations, occurs during the 1991–1992 period, the interval following the dropping of the poor white portion of a sub-sample and when the respondents were ages 27–34. Variations in yearly migrations are to be expected given the pace at which panel members experience migration-producing life events, and then enter ages during which migration rates are low. Comparisons of the NLSY79 migration rates with rates for matching age groups in the CPS reveal corresponding patterns of yearly changes, and particularly low rates for the early 1990s (Lee 2002; Toney and

Table 1 Number of Preliminary Migrations for Each Migration Interval and Number of Return Migrations at Each Subsequent Interview

Migration Interval	Preliminary Migrations	Number of Return Migrations At Up To 18 Subsequent Interviews →																		Total Returns
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	
79-80	564	121	45	19	12	11	8	9	7	5	5	2	3	2	3	1	1	1	1	256
80-81	750	143	54	24	23	20	21	7	11	10	3	1	7	6	6	3	2	0		341
81-82	802	127	49	21	37	36	13	13	5	4	3	8	5	4	2	4	1			332
82-83	869	90	53	52	59	16	12	16	3	5	4	4	7	1	4	0				326
83-84	739	88	56	71	21	10	12	5	5	2	3	4	4	2	3					286
84-85	719	94	66	30	25	17	5	3	13	5	9	5	4	1						277
85-86	1053	176	58	40	24	12	5	20	11	10	8	5	5							374
86-87	1426	135	103	52	21	15	25	15	14	12	6	5								403
87-88	840	100	46	22	15	27	14	10	1	8	13									256
88-89	1038	128	32	18	50	17	28	13	6	7										299
89-90	872	60	20	55	29	38	12	9	10											233
90-91	409	32	39	16	16	8	6	0												117
91-92	322	43	18	15	3	4	5													88
92-93	773	73	64	25	18	20														200
93-94	509	70	30	17	9															126
94-96	790	91	63	26																180
96-98	680	78	7																	85
98-00	643	90																		90
Total	13798	1739	803	503	362	251	166	120	86	68	54	34	35	16	18	8	4	1	1	4269
Preliminary Migrations		1739 Rapid Returns	1919 Delayed Returns										611 Belated Returns							4269 Ever Returns

Ever Return = Return at any later point in time: 30.9%

Rapid Return = Return during 1st subsequent interval: 12.6%

Delayed Return = Return during 2nd-5th subsequent intervals: 16.2%

Belated Return = Return during 6th-18th subsequent intervals: 6.0%

Swearengen 1984). Analysis that excludes data for the early 1990s yielded results very similar to the results presented in this paper.

The research is, in effect, utilizing a person-period approach with preliminary migrations being person-periods. Each preliminary migration is followed by at least one time-period over which return migration is measured. Thus, the actual unit of analysis is the migration. Generalizing from person-periods to individuals is allowable if each event is independent and standard errors do not change substantially when individuals, rather than person-periods, are analyzed (Hak et al. 2004; Preston et al. 2001). The conclusions are robust when results persist in multivariate analyses since the procedure controls for the effect of some individuals contributing more person-periods than others.

After each preliminary migration we measure whether individuals return to places of departure within four specified subsequent intervals of time referred to as *ever return*, *rapid return*, *delayed* and *belated return*. These intervals are shown in Table 1. Morrison and DaVanzo's (1986) research indicated the need to distinguish between migrants who rapidly return and those who return after longer absences. Examining whether effects of characteristics are consistent for those who have recently left a place and those who have remained away for longer lengths of time provides for a more comprehensive assessment of the relationships between return migration and individual level characteristics than was possible in the panel studies by DaVanzo and Morrison (1981).

To measure *return migration* we employ a prospective design using the FIPS county codes to determine if and when a return migration occurs subsequent to each of the 13,798 preliminary migrations. It is important to stress that the 13,798 preliminary migrations are the units for our analysis. Each has a risk of generating a return migration. Our person-period design for analyzing these preliminary migrations provides an effective way for measuring whether an event occurs over a specified period of time and is similar to the approach employed in classic panel-based studies of migration and longitudinal research on fertility (DaVanzo and Morrison 1981; Schoumaker 2004). This procedure is especially appropriate in the measurement of time-varying variables that may be influenced by the dependent variable (Schoumaker 2004), and particularly for analyzing a dependent variable like migration that is measured over time intervals.

The 13,798 preliminary migrations generated 4,269 return migrations for an overall return migration rate of 30.9% (Table 1). We develop the four measures of return migration as described below that serve as dichotomous dependent variables. Table 1 also shows the number of return migrations in relation to the preliminary migrations and the intervals in which they occurred. Of the 4,269 return migrations 1,739 occur by the time of the interview following the interval in which the risk creating preliminary migration happened. The four measures, *ever return, rapid return, delayed return* and *belated return,* of return migration are based on length of absence since the preliminary migrations were made. The four measures are derived according to a "population at risk" method whereby the return migrations are restricted to those occurring during a specified interval of absence compared to preliminary migrations that had not resulted in a return by the beginning of the respective intervals of absence. The procedures and results are reflected in Table 1.

Rapid and delayed returns are similar to the categories identified by DaVanzo and Morrison (1981) but their data did not allow computation of propensities for migrants who had been away for more than 6 years. The patterns of decline in the likelihood of returning depicted in Table 1 parallel results obtained by DaVanzo and Morrison (1981). The use of the four measures and introduction of time-interval as a control variable help account for the fact that preliminary migrations occurring early in the interview sequencing have more intervals in which returns may occur.

Independent Variables

Race/ethnicity is our main independent variable with Hispanics, non-Hispanic black (blacks) and non-Hispanic whites (whites) as its categories. These have been constructed from two NLSY79 variables. The coding of the eight independent variables is shown in Table 2. We use the NLSY79 metropolitan/nonmetropolitan classification of counties that was derived from census data by the Center for Human Resource Research (2004) to define differences in county type. For the time varying variables we emphasize that they were measured at the time of departure from origins rather than at the time of a subsequent return. This is vital to our effort to determine if characteristics at the time of leaving a place effect return migration.

Analytical Method

We first examine the bivariate relationships between race/ethnicity and the four measures of return migration and between the four measures and the eight other variables, all of which are introduced later in our logistic regression analysis. To keep the analysis from becoming unwieldy with four dependent variables we show a basic and a full logistic regression model for our race ethnic comparisons and only the odds for the full model for our other independent variables. This is consistent with our focus on race/ethnic comparisons and allows an assessment of the effects of the other independent variables on the likelihood of ever, rapid, delayed and belated return migration. We present these results for the full sample and separately for nonmetro and metro origins.

Coding for the four dependent variables is also shown in Table 2. The dependent variable was coded so that odds less than 1.0 indicated lower odds for a category relative to the comparison group and greater than 1.0 indicate the group had higher odds of repeat migration than the comparison group. Therefore, in the logistic regression we use 1 for return and 0 for did not return. Age is included as a continuous variable. With the logistic regressions, we focus attention on the odds of migration for Hispanics and blacks compared to whites but also pay a fitting amount of attention to the effects of the other independent variables.

Bivariate Results

Hispanics and blacks have statistically and substantively higher rates of return migration than whites on each of the four measures (Table 2). The *ever return* rate for Hispanics, or proportion of their 1,807 preliminary migrations followed by

Table 2 Rates of ever, rapid, delayed and belated return migration by selected characteristics as measured at time of preliminary migration (N of preliminary migrations at risk of each type of return)

	Ever return	Rapid return	Delayed return	Belated return
Race/ethnicity				
Hispanics	34.5(1,807)	14.9(1,807)	18.7(1,435)	10.2(841)
Blacks	35.7(2,871)	14.3(2,871)	20.5(2,333)	10.1(1,350)
Whites	28.7(9,120)	11.6(9,120)	15.1(7,738)	7.4(5,235)
	***	***	***	***
Gender				
Female	30.1(6,847)	12.1(6,847)	16.0(5,754)	8.0(3,811)
Male	31.8(6,951)	13.1(6,951)	17.3(5,752)	8.5(3,615)
	*	NS	NS	NS
Education				
Less high school	41.7(2,196)	18.7(2,196)	22.2(1,738)	10.7(1,136)
High school	34.6(5,308)	13.9(5,308)	18.8(4,365)	10.1(2,744)
Some college	27.5(3,331)	10.8(3,331)	14.9(2,814)	7.2(1,877)
College graduate	20.3(2,963)	7.8(2,963)	11.4(2,589)	4.6(1,669)
	***	***	***	***
Marital status				
Never married	36.0(6,542)	14.3(6,542)	19.1(5,491)	9.4(3,901)
Married	25.2(5,562)	10.3(5,562)	13.7(4,684)	6.6(2,841)
Div/sep/widowed	30.0(1,694)	13.5(1,694)	16.8(1,331)	8.3(684)
	***	***	***	***
Employment status				
Unemployed	34.3(2,474)	15.0(2,474)	17.8(2,030)	8.5(1,365)
Employed	30.2(11,324)	12.1(11,324)	16.4(9,476)	8.2(6,061)
	***	***	NS	NS
Home owner				
No	32.6(11,291)	13.1(11,291)	17.4(9,493)	8.4(6,459)
Yes	23.5(2,507)	10.2(2,507)	13.3(2,013)	6.9(967)
	***	***	***	NS
Length of residence				
<3 years	25.3(8,536)	9.9(8,536)	13.2(7,394)	6.5(5,153)
3–5 years	30.3(1,237)	13.4(1,237)	17.0(994)	7.1(560)
6–9 years	31.7(1,098)	13.3(1,098)	18.3(895)	8.5(445)
10 or +years	47.4(2,927)	19.8(2,927)	27.5(2,223)	15.5(1,268)
	***	***	***	***
Place type				
Nonmetro	29.6(3,397)	12.6(3,397)	14.6(2,840)	8.1(2,018)
Metro	31.4(10,401)	12.6(10,401)	17.4(8,666)	8.3(5,408)
	NS	NS	***	NS

Table 2 continued

	Ever return	Rapid return	Delayed return	Belated return
Interval				
One-year	33.5(11,685)	12.7(11,685)	17.9 (10,205)	8.2 (7,426)
Two-years	16.8 (2,113)	12.3 (2,113)	7.4 (1,301)	NA
	***	NS	***	NS

Chi-square of variables with *ever, rapid, delayed,* and *belated return* migration: *** $P < .001$; ** $P < .01$; * $P < .05$

return migrations, is 34.5 and it is 35.7% for the 2,871 preliminary migrations by blacks. The e*ver return* rate for whites is 28.7%. Rates of coming back by the first interview after leaving a place (*rapid return*) are 14.9 for Hispanics, 14.3 for blacks and 11.6 for whites. Of the preliminary migrations not followed by a return by the time of the first interview subsequent to leaving, the *delayed return* rate (or coming back by the time of one of the next four interviews), is 18.7 for Hispanics, 20.5 for blacks and 15.1 for whites. The rate of *belated return* migration, coming back after at least 5 years of absence, for Hispanics and blacks is 10.2 and 10.1, respectively, compared to 7.4% for whites. The absolute differences between the groups are not exceptionally large for any of the measures but the consistently higher rates across the four measures for Hispanics and blacks than for whites is noteworthy.

Of the other eight categorical variables shown in Table 2, education, marital status and length of residence at the time of leaving a place are strongly associated with whether outmigrants will come back. At the bivariate level, rates for each of the measures of return migration for individuals who had not graduated from high school are at least double those for college graduates. The persistence of these results across short and longer term intervals of absences suggests that going away for more education and then coming home does not account for the differences. As for marital status, preliminary migrations by never-married individuals were most likely to result in a return migration and those by married individuals are least likely for each of the four measures of return migration. The difference between the two categories is about 10% points for the e*ver* return rate, 36.0% and 25.2%, respectively. The difference between the never-married and married categories is less substantial but still statistically significant for the *rapid, delayed*, and *belated* measures of return migration. The length of time individuals spent in a place before leaving is a particularly strong predictor of returning to that place of departure. The rate of return migration to places of prior long-term residence is roughly double the rate for coming back to places where migrants had lived less than 3 years. This pattern is found for each of the four measures of return migration.

There are some surprising relationships between our other independent variables and the measures of return migration. First, preliminary migrations by individuals who owned a home prior to leaving were less likely to be followed for *ever* and *rapid* return migrations than were preliminary migrations by individuals who did not own a home in the place leading up to their departure. The relationship between home ownership and *delayed* and *belated* return migration is not statistically

significant. Also, preliminary migrations by individuals who were unemployed were more likely to be followed by *ever* and *rapid* return migrations than were those who were employed leading up to their departure. The relationship between gender and return migration is statistically significant only for the *ever* return measure with males being slightly more likely to return than are females. Similarly, preliminary migrations from nonmetropolitan and metropolitan counties are equally likely to result in return migrations on three of the four measures of return migration with the exception being higher rates of *delayed* return migration to metropolitan than to nonmetropolitan counties.

Logistic Regression Results

As expected from our bivariate analysis, the basic model (Model 1) in our logistic regression shows higher odds of return migration for Hispanics and blacks than for whites with each of the measures of return migration. Hispanics are 1.3 times as likely to make *ever*, *rapid*, and *delayed* returns and they are 1.4 times as likely to return after an absence of 5 or more years. Blacks are 1.4 times as likely as whites to make *ever*, *delayed* and *belated* returns and 1.3 times as likely to make *rapid* returns. The results for Model II are almost the same with the only loss of statistical significance being the equal odds of *rapid* return migration for blacks and whites. Hispanics still have significantly higher odds of return migration than whites for each of the four measures of return migration, and blacks have higher rates of return on three of the four measures. The odds scarcely change from those just reported for the basic model. These results support our hypothesis of higher odds of return migration for Hispanics and blacks than for whites.

The relationships between the four measures of return migration and the independent variables are very similar to the bivariate relationships reported in Table 2. Differences between the odds of observed categories and comparative categories for education, marital status and length of residence are typically much greater than the odds just described for the race/ethnic comparisons. As expected, age measured in years is also significantly correlated with the four measures of return migration with each year of age corresponding to a reduction in the likelihood of return migration. Remembering that odds themselves are subject to the metric of the independent variable relative to the dependent variable, although the odds are all but even for *rapid* and *delayed* migration, the fact that there is a statistical difference with each year of age corresponds nicely with prior research on the impact of age on migration.

Importantly, the much higher odds of return migration for the less educated and the never married still exist when age and the other variables are introduced in Model II, except that the differences between the *married* and *never married* are not statistically significant with *belated* return migration. Preliminary migrations by married individuals are less likely to result in return migrations than are those by the *never married* on the other three measures. Across the preliminary migrations, individuals who had not graduated from high school when departing origins were at least 1.52 times as likely as those by college graduates to be followed by return migrations. The odds for *ever* and *rapid* return migration were significantly higher

for individuals who had completed some college than for college graduates, but the difference between these groups was not significant with delayed and belated return migration.

The high odds of returning to an origin where one had lived for 10 or more years is the most striking result in Table 3. Indeed, preliminary migrations by individuals who had lived in a place for 10 years or more were more than twice as likely to come back for each of the four measures of return migration as were those by individuals who had lived in a place of departure for less than 3 years. Even those with 10 or more years of residence at an origin, and who had stayed away for 5 years or longer, were 2.26 times as likely to come back as were those who had left after less than 3 years of residence. The odds of coming back for those who had resided in places of departure for 3–5 years and 6–9 years are significantly higher for *ever*, *rapid* and *delayed* return migration but not for *belated* migration. These results soundly support findings in prior research that suggest length of residence as a marker for strength of ties to a place of residence.

As with the bivariate analysis the effects of gender, employment, and home ownership are generally not statistically significant across the four measures of return migration. The only exception to this is lower odds (0.86) for the employed at origin than for the unemployed at origin with *rapid* return migration. This is consistent with Morrison and DaVanzo's (1986) findings that individuals unemployed at destinations were more likely than those employed to make a return migration. Males and females are equally likely to return on each of the measures as are those who owned a home and those who did not own a home at prior places of departure.

Comparisons of Returns to Metro and Nonmetro Origins

We analyze the effects of individual characteristics separately for metro and nonmetro places to provide a more thorough understanding by assessing whether results are similar across these two distinct types of places (Table 4). The patterns of the results are remarkably similar for metro and nonmetro origins with Hispanics and blacks having higher odds than whites across our four measures, although some of the differences are not statistically significant. Still, there is no comparison of odds where the odds for one of these groups are lower than the comparative odds for whites. Hispanics have higher odds than whites for *ever* returning to metro origins and nonmetro origins. But, Hispanics and whites have statistically equal odds for *rapid* returns to metro origins while the odds for Hispanics for *rapid* returns to nonmetro origins are 1.54 times the odds for whites. Hispanics have higher odds than whites for *delayed* and *belated* returns to metro places but their odds are equal on these two measures when it comes to returning to nonmetro places. The results for blacks are even more disparate. As with Hispanics, blacks have statistically higher odds for *ever*, *delayed* and *belated* returns to metro areas and equal odds as whites for *rapid* returns to metro origins. The odds for blacks and whites are equal for all four of the measures of return migration to nonmetro places. Overall, these results support our hypothesis of higher odds of return migration for Hispanics and blacks than for whites. The support is statistically stronger for predicting returns to metro origins than for nonmetro origins.

Table 3 Odds of return migration as predicted by characteristics measured at time of preliminary migration

	Ever return		Rapid return		Delayed return		Belated return	
	Model one	Model two	Model one	Model two	Model one	Model two	model one	model two
Race/ethnicity								
Hispanic	1.31***	1.26***	1.33***	1.17***	1.30***	1.25**	1.42***	1.36**
Black	1.38***	1.31***	1.26***	1.10	1.45***	1.37***	1.41***	1.35**
(Whites)								
Gender								
Female		.94		.95		.91		.92
(Male)								
Education								
Less than High school		1.95***		2.23***		1.67***		1.52**
High school		1.63***		1.66***		1.48***		1.64***
Some college		1.16**		1.24*		1.11		1.15
(College or more)								
Marital status								
Married		.79***		.75***		.82***		.88
Div/sep/ widowed		1.03		.94		1.06		1.18
(Never Married)								
Employ status								
Employed		.98		.86*		1.01		1.11
(Unemployed)								
Own Home								
Yes		1.01		.92		1.04		1.19
(No)								
Length of residence								
3–5 years		1.50***		1.51***		1.50***		1.20
6–9 years		1.61***		1.44***		1.71***		1.372
10 > years		2.39***		2.02***		2.25***		2.26***
<3 years								
Age		.91***		.98*		.97***		.90***
Interval								
Two-years		.680***		1.28*		.88		NA
(One-year)								
Model χ²	62.41	1204.79	23.37	366.79	41.70	501.52	15.09	205.90
df	2	15	2	15	2	15	2	14
-2LL	17007.25	15864.88	10429.31	10085.89	10327.69	9867.87	4207.32	4016.51

*** $P < .001$; ** $P < .01$; * $P < .05$

Table 4 Odds of return migration as predicted by characteristics measured at time of preliminary migration for metro and nonmetro origins

		Return to metro				Return to nonmetro			
		Ever	Rapid	Delayed	Belated	Ever	Rapid	Delayed	Belated
Model 1	Race/ethnic								
	Hispanic	1.27**	1.25**	1.26***	1.46**	1.45	1.70***	1.36	1.27
	Black	1.41***	1.32***	1.50***	1.39***	1.26*	1.18	1.21	1.49*
	(Whites)								
	Model χ^2	49.91	47.32	36.72	11.48	12.87	28.14	4.20	3.88
	df	4	4	2	2	4	4	2	2
	-2LL	12888.30	7828.60	76961.54	3078.14	4114.90	2548.61	2354.76	1128.83
Model 2	Race/ethnicity								
	Hispanic	1.20***	1.08	1.20*	1.35*	1.41**	1.54**	1.28	1.30
	Black	1.35***	1.10	1.45***	1.33*	1.11	1.00	1.01	1.39
	(Whites)								
	Gender								
	Female	.93	.99	.87*	.99	.84*	.78*	1.02	.72
	(Male)								
	Education								
	Less than High school	2.01***	2.19***	1.70***	1.64*	2.08***	2.47***	2.01**	1.31
	High school	1.61***	1.65***	1.42***	1.75***	1.79***	1.78**	1.94***	1.36
	Some college	1.13	1.21	1.09	1.10	1.34	1.41	1.29	1.33
	(College or more)								
	Marital status								
	Married	.75***	.70***	.81**	.82	.97	.93	.93	1.13
	Div/sep/widowed	1.07	1.03	1.10	1.09	1.00	.72	1.08	1.54
	(Never Married)								

Table 4 continued

	Return to metro				Return to nonmetro			
	Ever	Rapid	Delayed	Belated	Ever	Rapid	Delayed	Belated
Employ status								
Employed	.97	.87	.97	1.10	.95	.80	1.04	1.06
(Unemployed)								
Own home								
Yes	.97	.84	1.03	1.19	1.13	1.15	1.04	1.18
(No)								
Length of residence								
3–5 years	1.42***	1.42***	1.42***	1.21	1.84***	1.89***	1.94***	1.17
6–9 years	1.61***	1.47***	1.70***	1.34	1.68***	1.36	1.89**	1.47
>10 years	2.26***	1.93***	2.10***	2.15***	3.01***	2.37***	3.11***	2.22***
(<3 Years)								
Age	.94***	.99	.96***	.90***	.94***	.96***	1.00	.88***
Interval								
Two-years	.59***	1.08	.42***	NA	1.2	2.50***	.88	NA
(One-year)								
Model χ^2	769.12	266.47	430.24	158.19	307.40	143.78	124.89	55.97
df	15	15	15	14	15	15	15	14
-2LL	11969.09	7609.45	7568.08	2931.48	3820.09	2432.97	2234.07	1076.75

*** $P < .001$; ** $P < .01$; * $P < .05$

The higher odds of returning to origins where individuals had lived longer persist across metro and nonmetro settings. This is particularly true for returning to places where individuals had lived for 10 or more years prior to their departures with their odds ranging from 1.93 to 3.11 times higher than those who had lived in a place of departure for less than 3 years. The odds of returning to nonmetro and metro places where individuals had resided for 3–5 years or 6–9 years were consistently higher than the odds for places where individuals had lived for less than 3 years. The pattern of higher odds of return migration for the less educated largely exists for metro and nonmetro origins as it (does) for the overall sample with the odds for those who had not completed high school being from 1.31 to 2.47 times the odds for college graduates. The pattern of higher odds of return migration exists for high school graduates and those with some college too, although the differences in odds are not as great. The results are not as consistent across nonmetro and metro origins with marital status. The odds for the married, as in the overall analysis, are substantially lower than for the never married for metro origins but the odds for the married and never married to return to nonmetro origins are not substantially different from one another. Generally, there are no differences in the likelihood of returning to nonmetro or metro origins for categories identified on the basis of gender, employment status and home ownership.

Summary and Conclusions

The overall purpose of this study was to contribute to the important body of research on migration differentials by providing a multivariate analysis of the effects of several individual level characteristics on return migration. There has been a deficiency in research that investigates group differences in the likelihood of returning to places they departed, particularly after varying lengths of absences and, there is a similar lack of systematic comparisons among Hispanics, blacks and whites. To keep our study manageable we examined three specific objectives with four uncommon measures of return migration. Time-varying characteristics are measured at the time of leaving origins to which a return might follow; an opportunity offered by panel data. Reliance on cross-sectional data and the first few waves of panel surveys largely accounts for the absence of this approach in prior studies of return migration.

First, utilizing NLSY79 panel data we identified 13,798 preliminary migrations, our units of analysis, between 19 interviews conducted from 1979 to 2000. County codes were checked at interviews subsequent to each *preliminary migration*, including the 2002 wave, to develop four measures of return migration that were based on lengths of absences. Using these procedures we detected 4,267 *ever* returns, 1,739 *rapid* returns, 1,917 *delayed* returns, and 611 *belated* returns.

In connection to our first objective of examining the tempo of return migration, we observed a swift pace of return migration. A large portion of return migrations occurred shortly after leaving an origin with 41% of the 4,267 returns happening in the 1–2-year interval immediately following the risk-creating preliminary migration. There is a sharp decline in propensity to return migrate as length of absence

increases, such that there are hardly any returns to places from which individuals had been away for 10 or more years.

Our second objective was to systematically compare return migration differentials for Hispanics, blacks and whites. A key finding of the study was higher odds of return migration generally across our four measures, for Hispanics and blacks, than for whites. In examination of the odds of returning to metro and nonmetro origins the pattern of higher likelihood of return migration for Hispanics and blacks than for whites was maintained, but with notable exceptions. These results are important because they furnish empirical evidence that differences in return migration exist between these race/ethnic groups even after accounting for other key determinants of migration. Taken as a whole, we interpret these findings as supporting our hypothesis of higher likelihoods of return migration for Hispanics and blacks than for whites.

There are a number of plausible explanations for higher odds of return migration by Hispanics and blacks than by whites. Historical patterns of migration that have established communities or enclaves along race and ethnic lines probably continue to channel Hispanic and black migration between fewer population nodes (White et al. 2005). These historical patterns of migration were also influenced by the distribution of initial settlements. Blacks were highly concentrated in the South and Hispanics were concentrated in a few states. As Newbold (1997) notes, discrimination and differences in cultural preferences for migration or types of places to live could influence the overall migration and migration types for Hispanics and blacks. Differences between whites, Hispanics and blacks with respect to tendencies of living near relatives might lead to differences in return migration too. Frey and Liaw's (2005) observation that minorities tend to rely on kinship, social networks and informal employment opportunities when selecting destinations has clear implications for understanding why Hispanics and blacks are more likely to make return migrations.

With respect to the third objective of examining the relationships between the six other characteristics and return migration, we found the effects of length of residence were the most consistent and strongest of all the effects observed, including the effects of race/ethnicity. This pattern existed across the four measures of return migration and for metro and nonmetro settings with the odds for returns by those who resided in a place for 10 or more years prior to their outmigration typically being more than twice as likely to return as those who had lived in places of departure for less than 3 years. This finding supports the use of length of residence as an indicator for strength of place attachment. Given the difficulty of fully indexing attachments this is an important finding (Berry 2000; Martin 2007).

Additionally, consistent and significant differences between groups defined by education and marital status were also observed. The higher odds of return migration by the less educated is consistent with Morrison and DaVanzo's (1986) findings and with more recent results from census based research (Falk et al. 2004; Von Reichert 2002). We were a bit surprised by the lower odds of return migration for married rather than never married individuals since being married in a place prior to departing seemed likely to create more attachments. The lower odds for married than for never married were more prominent for metro than for nonmetro

origins. On the other hand, it is possible that being married might help integrate individuals into their places of destination. The lack of differences in return migration between categories of gender, home ownership and employment status was generally true across our four measures and for metro and nonmetro origins. As with marital status, we were surprised that home ownership in a place prior to leaving it did not disproportionately draw individuals back.

Revealing the existence of generally higher propensities for return migration by some groups than for others across our four measures is an important contribution to empirical research on migration differentials. Notably, results show that characteristics at the time of leaving a place often influence migration after several years of absence. Such characteristics also predict who will be drawn back quickly. Clearly, additional research is needed to more fully analyze the reasons for differences between racial and ethnic groups in patterns of return, and other forms of migration.

Research that includes more place characteristics and location of relatives along with personal characteristics is also needed. Racial/ethnic differences in forms of migration certainly have significant consequences for the geographical distributions of members of the groups and implications for their prospects for taking advantage of the socioeconomic opportunities existing across areas of the country (Frey and Liaw 2005). Knowing whether the preliminary, and thus the subsequent return migration was short or long distance might go a long way to throwing further light on this subject. The largest drawback to using county-to-county migration measures is that they cannot account for distance. Worse, in this particular analysis, we have not employed a measure of distance nor of contiguity of counties. Thus we do not know either how far each preliminary migration might have been, nor the distance covered by the return migration.

The need for research on migration differentials persists because, as earlier researchers noted, they are likely to vary across settings and time periods. Perhaps more importantly, understanding the factors that are likely to enhance return migration will help planners and families prepare for what types of out migrants are likely to return, and will help policy makers understand, among other things, which international migrants are more likely to become emigrants after first becoming immigrants.

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